

**The Second IASTED International Conference on  
Internet and Multimedia Systems and  
Applications  
~EuroIMSA 2006~**

**Innsbruck, Austria  
February 13-15, 2006**

**PRELIMINARY CONFERENCE PROGRAM**



**LOCATION**  
**Congress Innsbruck**  
Postfach 533  
Rennweg 3  
A-6021 Innsbruck, Austria

# **Internet and Multimedia Systems and Applications**

## **~EuroIMSA 2006~**

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### **KEYNOTE SPEAKER**

**Dr. John Debenham** – University of Technology, Australia

### **PLENARY SPEAKER**

**Dr. Gabriele Kotsis** – Johannes Kepler University Linz, Austria

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**J. Zhao** - University of Ottawa, Canada

## **PLEASE NOTE**

- ❖ Paper presentations are 15 minutes in length with an additional 5 minutes for questions.
- ❖ Report to your Session Chair 15 minutes before the session is scheduled to begin.
- ❖ Presentations should be loaded onto the presentation laptop in the appropriate room prior to your session.
- ❖ End times of sessions vary depending on the number of papers scheduled.

## PROGRAM OVERVIEW

### Monday, February 13, 2006

- 07:00 – Registration  
08:30 (*Diesner Foyer*)
- 08:30 – Welcome Address  
09:00 (*Grenoble Room*)
- 09:00 AIA Keynote Address –  
“Automated Trading: Making it  
Happen” (*Grenoble Room*)
- 10:00 – Coffee Break  
10:30 (*Diesner Foyer*)
- 10:30 Session 1 – Collaborative Systems  
and Distance Learning I  
(*Freiburg Room*)
- 14:00 Plenary Speaker – “Beyond  
Desktop Computing:  
Technology Trends and Future  
Applications” (*Freiburg Room*)
- 15:00 – Coffee Break  
15:30 (*Diesner Foyer*)
- 15:30 Session 2 – Collaborative Systems  
and Distance Learning II  
(*Freiburg Room*)
- 17:30 – Optional Evening Tour –  
23:00 “Evening in the Tyrol”  
(*Inn-Foyer*)

### Tuesday, February 14, 2006

- 09:00 Session 3 – Multimedia  
Compression (*Freiburg Room*)
- 10:00 – Coffee Break  
10:30 (*Diesner Foyer*)
- 10:30 Session 3 Continued
- 14:00 Session 4 – Multimedia  
Applications and Virtual Reality  
(*Freiburg Room*)
- 15:30 – Coffee Break  
16:00 (*Diesner Foyer*)
- 16:00 Session 4 Continued
- 19:00 Cocktail Reception  
19:30 Dinner Banquet (*Dogana Hall*)

### Wednesday, February 15, 2006

- 09:00 Session 5 – Networks and  
Communications Systems  
(*Freiburg Room*)
- 10:00 – Coffee Break  
10:30 (*Diesner Foyer*)
- 10:30 Session 5 Continued
- 14:00 Session 6 – Multimedia Indexing  
(*Freiburg Room*)
- 15:00 – Coffee Break  
15:30 (*Diesner Foyer*)
- 15:30 Session 6 Continued

## MONDAY, FEBRUARY 13, 2006

### 07:00 – 08:30 REGISTRATION

*IASTED Staff: M. Kinsella (Canada)*

*Room: Diesner Foyer*

### 08:30 – 9:00 WELCOME ADDRESS

*Presenter: A.C. Boucouvalas (UK)*

*Room: Grenoble*

### 09:00 AIA KEYNOTE

#### ADDRESS -

#### “AUTOMATED TRADING: MAKING IT HAPPEN”

*Presenter: J. Debenham*

*(Australia)*

*Room: Grenoble*

Fully automated trading, such as e-procurement, is virtually unheard of today. Trading involves the maintenance of effective business relationships, and is the complete process of need identification, product brokering, supplier brokering, offer-exchange, contract negotiation, and contract execution. Three core technologies are needed to fully automate the trading process. First, real-time data mining technology to tap information flows and deliver timely information at the right granularity. Second, intelligent agents that are designed to operate in tandem with the real-time information flows from the

data mining systems. Third, virtual institutions in which informed trading agents can trade securely both with each other and with human agents in a natural way. This discussion focuses on the second technology – the design of “information driven” trading agents.

**Dr. John Debenham** is Professor of Computer Science in the Department of Software Engineering in the Faculty of Information Technology at the University of Technology, Sydney, Australia. He has a long-standing interest in Artificial Intelligence. Between 1985 and 1998 he worked on the design of expert, knowledge-based systems. That work is reported in the two research monographs: “Knowledge Systems Design”, Prentice-Hall, 1989, and “Knowledge Engineering: Unifying Knowledge Base and Database Design”, Springer-Verlag, 1998. His recent work has focused on multi-agent systems. During the period 1998 to 2002 he published extensively on multi-agent systems for managing complex business processes. During the period 2002 to 2005 John’s work has been on eNegotiation and argumentation agents. He is particularly interested in the design of agents that can exploit the information-rich environment of electronic markets.

## 10:00 – 10:30 COFFEE BREAK

*Location: Diesner Foyer*

## 10:30 – SESSION 1 – COLLABORATIVE SYSTEMS AND DISTANCE LEARNING I

*Chairs: TBA*

*Room: Freiburg*

516-026

E-Learning in Diverse Cultural  
Contexts

*A. Murphy (UK)*

516-030

A Ubiquitous Zoo Guide

*H. Hlavacs (Austria), F. Gelies,  
D. Blosssey (Germany), and B. Klein  
(Austria)*

516-066

A System Level Integration for  
Remote Learning Services based  
on DVB-T Platform

*E. Gambi, S. Spinsante, M. Baldi,  
G. Righi, and G. Ronzino (Italy)*

516-068

Critical Success Factors for the  
Development of Mobile Learning  
Applications

*K. Papanikolaou and  
S. Mavromoustakos (Cyprus)*

516-070

An Electronic Language for  
Communication Understanding  
and Collaboration: The Arabic  
Module

*E. Jaser and H.U.-D. Ihmaid  
(Jordan)*

## 14:00 – PLENARY SPEAKER – “BEYOND DESKTOP COMPUTING: TECHNOLOGY TRENDS AND FUTURE APPLICATIONS”

*Presenter: G. Kotsis (Austria)*

*Room: Freiburg*

New paradigms like pervasive or mobile computing clearly show a trend of using computing and communication power to overcome the physical limitations posed by state-of-the-art desktop computers. Technologies such as wireless networks, ambient intelligence, mobile agents, miniaturized computing devices, and embedded systems have enabled a plethora of new types of applications and services. However, usage statistics show that there is still a huge gap between the potential of such services and their acceptance in practice.

In this talk, an overview of existing technological developments will be given along with a critical review of existing services and applications identifying potential barriers hindering their acceptance. One of the major questions to be answered is how to enable human users to cope with this omnipresence of information. We already observe in the "traditional" web, people suffering from information overflow, receiving too much, the wrong, or

even unwanted information on the web. Personalization and adaptivity appear to be potential solutions to this problem but bear the risk of putting the user out of control. Approaches trying to overcome this area of conflict will be the focus of the presentation.

**Dr. Gabriele Kotsis** was born on October 29th, 1967, in Vienna, Austria. She received her Master's degree (1991, honored with the Award of the Austrian Computer Society), her PhD (1995, honored with the Heinz-Zemanek Preis) and the Venia Docendi in computer science (2000) from the University of Vienna. She was working as a researcher and teacher at the University of Vienna (1991-2001), at the Vienna University for Economics and Business Administration (2001), and at the Copenhagen Business School (2002). Since December 2002, she has been a full Professor at the Telecooperation Department at the Johannes Kepler University of Linz, Austria. Her research interests include performance management of computer systems and networks, workgroup computing, mobile and Internet computing, telemedia, and telecooperation. Prof. Kotsis is author of numerous publications in international conferences and journals and is co-editor of several books. Since April 2003, she has been President of the Austrian Computer Society.

## 15:00 – 15:30 COFFEE BREAK

*Location: Diesner Foyer*

## 15:30 – SESSION 2 – COLLABORATIVE SYSTEMS AND DISTANCE LEARNING II

*Chairs: TBA*

*Room: Freiburg*

516-051

A Framework for Transformations of XML within the Binary Domain  
*W. Van Lancker, R. De Sutter, D. De Schrijver, and R. Van de Walle (Belgium)*

516-052

A Circuit Board Approach to Building Web Applications  
*H. Avoyan and A. Mehrabyan (Armenia)*

516-050

Behavior Modeling using BigRam Frequencies for Client-Side Link Prefetching  
*A. Georgakis, H. Li (Sweden), and M. Gordan (Romania)*

516-090

Pharmaceutical Learning and Collaborative Networks - A Qualitative Case Study  
*T.W. Parsons, T.W. Jackson, and R. Dawson (UK)*

516-112

On the Impact of Employing  
Various Network Architectures on  
the Performance of Collaborative  
Applications

*S. Kanapuram, M. Myers, and  
H.H. Ali (USA)*

**17:30 - OPTIONAL EVENING  
23:00 TOUR - "AN EVENING  
IN THE TYROL"**

*Meeting Location: Inn-Foyer  
Time: 17:30*

To begin the evening, we will hop on the bus and take a short, scenic ride up to the Olympic town of Seefeld. This cosmopolitan village, raised 1200 meters above the Inntal Valley on a plateau in the Karwendel Nature Preserve, receives over two meters of snow every year and is the ideal place to enjoy a winter stroll. Before heading off on the carriage ride, our delegates will have the chance to enjoy a taste of local mulled wine or non-alcoholic punch while sightseeing in the modern centre of Seefeld. A town like no other, this unique area offers an eclectic blend of 5 Star Resorts, beautiful mountain views and stores filled with authentic Austrian arts and crafts.

From Seefeld, a warm and comfortable carriage ride will carry everyone through the snowy and moonlit mountains to a traditional Austrian cabin. Inside

the cabin, our delegates will be met with a feast of local delicacies. Whether one decides to indulge in the local flavourful cheeses and potato pastas, or the traditional meat dish *Gröst* and the famous Austrian pancake *Kaiserschmarrn*, it is guaranteed that you will leave full and happy from these delicious meals. Warm, relaxed and filled with Austrian hospitality and treats, one last quick bus ride through the mountains will return everyone back to Innsbruck and back to another great evening in the Austrian Alps!

**TUESDAY, FEBRUARY 14,  
2006**

**09:00 - SESSION 3 -  
MULTIMEDIA COMPRESSION**

*Chairs: TBA*

*Room: Freiburg*

516-031

Guidelines for Selecting Practical  
MPEG Group of Pictures

*H. Wu, M. Claypool, and R. Kinicki  
(USA)*

516-078

Fractal Image Coding in  
Hexagonal Grid Images

*B. Balasubramaniyam,  
E.A. Edirisinghe, and H.E. Bez (UK)*

516-060  
Maintaining Video Quality for a  
Down-Sampling Decoder in Low-  
Power Mobile Devices  
*J. Lee, Y. Lee, S. Park, and H. Shin*  
(Korea)

516-111  
Movie-based Matrix Computing  
*D.A. Vazhenin and A.P. Vazhenin*  
(Japan)

516-115  
A Sense of Speed in Camera  
Motion  
*T. Lertrusdachakul, T. Aoki, and*  
*H. Yasuda* (Japan)

**10:00 – 10:30 COFFEE BREAK**  
*Location: Diesner Foyer*

### **10:30 SESSION 3 CONTINUED**

### **14:00 – SESSION 4 – MULTIMEDIA APPLICATIONS AND VIRTUAL REALITY**

*Chairs: TBA*  
*Room: Freiburg*

516-086  
Steganography in Wireless  
Application Protocol  
*M. Shirali-Shahreza* (Iran)

516-069  
ezBusiness - A Novel Mobile  
Business Application Architecture  
*N.-W. Lo and E.-S. Chen* (Taiwan)

516-056  
Exaggeration of Extremely  
Detailed 3D Faces  
*A. Soon and W.-S. Lee* (Canada)

516-077  
Plugging Presence Awareness  
into Mozilla Thunderbird  
*F. Calefato and F. Lanubile* (Italy)

516-020  
A Virtual Reality System on Grid  
Computing Architecture  
*H.-M. Lee, C.-J. Hsieh, M.-H. Hsu,*  
*and T.-Y. Lee* (Taiwan)

516-028  
Virtual Reality Models used in  
Civil Engineering Education  
*A.Z. Sampaio, P.G. Henriques, and*  
*P.S. Ferreira* (Portugal)

516-037  
SwarmLan: A Language for Host  
Recommendation  
*B. Goldschmidt and Z. László*  
(Hungary)

516-048  
Advanced Multimedia  
Management - Control Model and  
Content Adaptation  
*T. Guenkova-Luy* (Germany),  
*M. Gómez* (Spain), *C. Timmerer*  
(Austria), *I. Wolf* (Germany), and  
*A. Kassler* (Sweden)

**15:30 – 16:00 COFFEE BREAK**  
*Location: Diesner Foyer*

### **16:00 SESSION 4 CONTINUED**

**19:00 – 19:30 COCKTAIL  
RECEPTION**

*Location: Dogana Hall*

**19:30 – 23:00 DINNER  
BANQUET**

*Location: Dogana Hall*

**WEDNESDAY,  
FEBRUARY 15, 2006**

**09:00 – SESSION 5 –  
NETWORKS AND  
COMMUNICATION SYSTEMS**

*Chairs: TBA*

*Room: Freiburg*

516-096

Variable Packet Size of IP Packets  
for VoIP Transmission

*M. Hassan, D.F. Alekseevich  
(Russia)*

516-061

An Estimation of the Upper  
Bound of TCP Throughput in  
High-Speed Networks

*M. Ito, K. Asai, T. Murakami,  
R. Suzuki, K. Kinoshita, H. Tode,  
and K. Murakami (Japan)*

516-039

Impact of Uncompressed Video  
Transmissions on Network  
Quality of Service Parameters

*S. Naegele-Jackson,  
R. Kleineisel, and S. Szuppa  
(Germany)*

516-116

Video-Enabled Peer Assessment  
System for Training Pre-Service  
Teachers

*C.-C. Wu and H.-C. Kao (Taiwan)*

516-113

OSGi based Service Mobility  
Management for Pervasive  
Computing Environments

*S.K. Lee and J.H. Lee (Korea)*

516-103

A Heuristic-based Real-Time Disk  
Scheduling Algorithm for Mixed-  
Media Workload

*T. Kim, J. Park, S. Ahn, K. Koh,  
Y. Won, and H. Bahn (Korea)*

516-806

Packet Delay Performance  
Comparison of the IEEE 802.11  
and IrDA Air CSMA/CA  
Protocols in High-Speed Wireless  
LANs

*P. Chatzimisios, V. Vitsas (Greece),  
A.C. Boucouvalas (UK),  
D. Kleftouris, and M. Tsoulfa  
(Greece)*

516-807

On Improving Performance for  
IEEE 802.11 Wireless LANs Under  
Congested and Error-Prone  
Environments

*P. Chatzimisios, V. Vitsas (Greece),  
and A.C. Boucouvalas (UK)*

516-808  
Representing Emotional  
Momentum within Expressive  
Internet Communication  
*D. John, A. Boucouvalas, and  
Z. Xu (UK)*

**10:00 – 10:30 COFFEE BREAK**

*Location: Diesner Foyer*

**10:30 SESSION 5 CONTINUED**

**14:00 – SESSION 6 –  
MULTIMEDIA INDEXING**

*Chairs: TBA*

*Room: Freiburg*

516-064  
An Arabic/English Switch for  
Audio Indexing and Dialogue  
Management  
*H.E. Talhami (UAE) and  
K.F. Shaalan (UK)*

516-802  
Scene-Level Analysis for Tennis  
Sports Video using Weighted  
Linear Combination of Visual  
Cues  
*J. Han, W. Lao, and  
P.H.N. de With (The Netherlands)*

516-071  
Automatic Sports Video Analysis  
using Audio Clues and Context  
Knowledge  
*W. Lao, J. Han, and  
P.H.N. de With (The Netherlands)*

516-074  
A Video Classification Method  
using User Perceptive Video  
Quality  
*Y. Kato and K. Hakozaki (Japan)*

516-054  
Effective Organization and  
Visualization of Web Search  
Results  
*N. Bonnel, V. Lemaire,  
A. Cotarmanac'h, and A. Morin  
(France)*

516-100  
Clustering Presentation of Web  
Image Retrieval Results using  
Textual Information and Image  
Features  
*Y. Uematsu, R. Kataoka, and  
H. Takeno (Japan)*

516-108  
A Hierarchical Bitmap Indexing  
Method for Content based  
Multimedia Retrieval  
*J. Park and J. Nang (Korea)*

**15:00 – 15:30 COFFEE BREAK**

*Location: Diesner Foyer*

**15:30 SESSION 6 CONTINUED**

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**IASTED would like to thank you for  
attending EuroIMSA 2006. Your  
participation helped make this  
international event a success, and we  
look forward to seeing you at  
upcoming IASTED events.**  
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